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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/790,119 | 03/02/2004 | Makoto Otake | 040356-0506 | 1151 |

22428 7590 09/29/2004

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| EXAMINER | |
|---|---|
| TRAN, DIEM T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3748 | |

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/790,119 | OTAKE ET AL. | |
| | Examiner | Art Unit | |
| | Diem Tran | 3748 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-14* is/are rejected.

7)☐ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claims 1-8, 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinzawa et al. (US Patent 5,319,930).***

Regarding claims 1, 7, 8, 10, 11, 13, 14, Shinzawa discloses a regeneration device exhaust gas of an engine, comprising:

a sensor which detects an engine running point containing an engine load, a controller comprising a map which defines a low load region relating to engine running points (see Figures 4, col. 7, lines 66-68), the controller being programmed to:

compute a deposition amount of for a filter which traps particulate matter in the filter (see col. 10, lines 30-42), determine whether or not the detected engine running point is in the low load region referring to the map, when the deposition amount of particulate matter is more than a first reference amount, immediately start a first filter regeneration control by raising a temperature of the exhaust gas, when the detected engine running point is not in the low load region (see Figure 5, col. 10, lines 30+, col. 11, lines 1+), and start a second filter regeneration control by raising the temperature of the exhaust gas after the deposition amount of particulate matter exceeds a second reference amount, when the detected engine running point is in the low

load region, wherein the second reference amount is larger than the first reference amount (see col. 13, lines 1+, col. 14, lines 1+).

Regarding claims 2, 3, Shinzawa further discloses the low load region contains one engine running point during idle running (see Figure 4).

Regarding claim 4, Shinzawa further discloses computing the deposition amount of particulate matter in the filter based on the detected engine running point (see col. 10, lines 35-42).

Regarding claims 5, 6, Shinzawa further discloses that the first and second filter regeneration control are a control which balances an amount of particulate matter removed from the filter by combustion and an amount of particulate matter newly flowing into the filter (see col. 9, lines 25-68).

Regarding claim 12, Shinzawa further discloses a sensor for detecting a rotation speed of the engine, wherein the controller comprises a map which gives a discharge rate of particulate matter based on the engine load and the rotation speed of the engine, and is programmed to compute the deposition amount of the particulate matter in the filter by integrating the discharge rate over time (see col. 11, lines 40-47).

***Allowable Subject Matter***

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (703) 308-6073. The examiner can normally be reached on Monday -Friday from 8:00 a.m.- 5:30p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

Diem Tran
Patent Examiner
Art unit 3748

DT
September 26, 2003

THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700